

» User Guide «

OM6062R

MicroTCA™ Double-Width Single-Tier Cube Shelf

Doc. ID: 1031-6374, Rev. 1.0
June 24, 2009



Revision History

Publication Title:		OM6062R MicroTCA™ Double-Width Single-Tier Cube Shelf User Guide
Doc. ID:		1031-6374
Rev.	Brief Description of Changes	Date of Issue
1.0	Initial issue	24-Jun-2009

Imprint

Kontron Modular Computers GmbH may be contacted via the following:

MAILING ADDRESS

Kontron Modular Computers GmbH
Sudetenstraße 7
D - 87600 Kaufbeuren Germany

TELEPHONE AND E-MAIL

+49 (0) 800-SALESKONTRON
sales@kontron.com

For information about other
Kontron products, please
visit our Internet web site:

www.kontron.com

Disclaimer

Copyright © 2009 Kontron AG. All rights reserved. All data is for information purposes only and not guaranteed for legal purposes. Information has been carefully checked and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Kontron and the Kontron logo and all other trademarks or registered trademarks are the property of their respective owners and are recognized. Specifications are subject to change without notice.



Table of Contents

Revision History ii

Imprint ii

Disclaimer ii

Table of Contents iii

List of Tables v

List of Figures vii

Proprietary Note ix

Trademarks ix

Environmental Protection Statement ix

Explanation of Symbols x

For Your Safety xi

 Temperature and High Voltage Safety Instructions xi

 Special Handling and Unpacking Instructions xi

General Instructions on Usage xii

Two Year Warranty xiii

1. Introduction 1 - 3

 1.1 Overview 1 - 3

 1.2 Components 1 - 3

 1.3 Technical Specification 1 - 5

 1.4 Standards 1 - 7

 1.5 Related Publications 1 - 8

2. Component Description 2 - 3

 2.1 Shelf 2 - 3

 2.2 Backplane 2 - 9

 2.3 Power Supply Unit 2 - 12

 2.4 Fans 2 - 13

 2.5 Mounting Brackets 2 - 15

3. Installation 3 - 3

 3.1 General 3 - 3

 3.2 Safety 3 - 5

 3.3 Prerequisites 3 - 6



3.3.1	Cooling	3 - 6
3.3.2	Splitter Kits and Filler Panels	3 - 6
3.4	Mounting	3 - 7
3.5	Adding or Replacing OM6062R Components	3 - 7
3.6	Cooling Air Filter Maintenance	3 - 7
3.7	Use of Third Party MCHs	3 - 7





List of Tables

1-1 OM6062R Shelf Specifications 1 - 5

1-2 Standards 1 - 7

1-3 Related Publications 1 - 8

3-1 OM6062R Base Solution Configuration 3 - 3



This page has been intentionally left blank.





List of Figures

1-1	<i>OM6062R Shelf - Perspective View with Feet and MCH Installed</i>	1 - 4
2-1	<i>OM6062R Shelf - Front View</i>	2 - 4
2-2	<i>OM6062R Shelf - Rear View</i>	2 - 5
2-3	<i>OM6062R Shelf - Bottom View</i>	2 - 6
2-4	<i>OM6062R Shelf - Top View</i>	2 - 7
2-5	<i>OM6062R Shelf - Left Side View - Cutaway</i>	2 - 8
2-6	<i>Backplane Front View</i>	2 - 9
2-7	<i>Backplane Rear View</i>	2 - 10
2-8	<i>Backplane Topology</i>	2 - 11
2-9	<i>Power Supply Unit Front View</i>	2 - 12
2-10	<i>Single Fan</i>	2 - 13
2-11	<i>Fan Tray with all Fans as Seen from Top</i>	2 - 14
2-12	<i>Top/Bottom Mounting Brackets (Front and Rear)</i>	2 - 15
2-13	<i>Left/Right Side Mounting Brackets (Front and Rear)</i>	2 - 16
3-1	<i>OM6062R Base Solution - Front View</i>	3 - 4



This page has been intentionally left blank.





Proprietary Note

This document contains information proprietary to Kontron. It may not be copied or transmitted by any means, disclosed to others, or stored in any retrieval system or media without the prior written consent of Kontron or one of its authorized agents.

The information contained in this document is, to the best of our knowledge, entirely correct. However, Kontron cannot accept liability for any inaccuracies or the consequences thereof, or for any liability arising from the use or application of any circuit, product, or example shown in this document.

Kontron reserves the right to change, modify, or improve this document or the product described herein, as seen fit by Kontron without further notice.

Trademarks

This document may include names, company logos and trademarks, which are registered trademarks and, therefore, proprietary to their respective owners.

Environmental Protection Statement

This product has been manufactured to satisfy environmental protection requirements where possible. Many of the components used (structural parts, printed circuit boards, connectors, batteries, etc.) are capable of being recycled.

Final disposition of this product after its service life must be accomplished in accordance with applicable country, state, or local laws or regulations.



Explanation of Symbols



Caution, Electric Shock!

This symbol and title warn of hazards due to electrical shocks (> 60V) when touching products or parts of them. Failure to observe the precautions indicated and/or prescribed by the law may endanger your life/health and/or result in damage to your material.

Please refer also to the section “High Voltage Safety Instructions” on the following page.



Warning, ESD Sensitive Device!

This symbol and title inform that electronic boards and their components are sensitive to static electricity. Therefore, care must be taken during all handling operations and inspections of this product, in order to ensure product integrity at all times.

Please read also the section “Special Handling and Unpacking Instructions” on the following page.



Warning!

This symbol and title emphasize points which, if not fully understood and taken into consideration by the reader, may endanger your health and/or result in damage to your material.



Note ...

This symbol and title emphasize aspects the reader should read through carefully for his or her own advantage.



For Your Safety

Your new Kontron product was developed and tested carefully to provide all features necessary to ensure its compliance with electrical safety requirements. It was also designed for a long fault-free life. However, the life expectancy of your product can be drastically reduced by improper treatment during unpacking and installation. Therefore, in the interest of your own safety and of the correct operation of your new Kontron product, you are requested to conform with the following guidelines.

Temperature and High Voltage Safety Instructions



Warning!

All operations on this device must be carried out by sufficiently skilled personnel only.

Be careful, this device will heat up during operation, and if touched may cause burns. The temperature of the product housing may reach up to approximately 50° C. Allow for sufficient cool down before handling after power is turned off.



Caution, Electric Shock!

Before installing your new Kontron product into a system always ensure that your mains power is switched off.

Serious electrical shock hazards can exist during all installation, repair and maintenance operations with this product. Therefore, always unplug the power cable and any other cables which provide external voltages before performing work.

Special Handling and Unpacking Instructions



ESD Sensitive Device!

Electronic boards and their components are sensitive to static electricity. Therefore, care must be taken during all handling operations and inspections of this product, in order to ensure product integrity at all times.

Do not handle this product out of its protective enclosure while it is not used for operational purposes unless it is otherwise protected.

Whenever possible, unpack or pack this product only at EOS/ESD safe work stations. Where a safe work station is not guaranteed, it is important for the user to be electrically discharged before touching the product with his/her hands or tools. This is most easily done by touching a metal part of your system housing.



General Instructions on Usage

In order to maintain Kontron's product warranty, this product must not be altered or modified in any way. Changes or modifications to the device, which are not explicitly approved by Kontron and described in this manual or received from Kontron's Technical Support as a special handling instruction, will void your warranty.

This device should only be installed in or connected to systems that fulfill all necessary technical and specific environmental requirements. This applies also to the operational temperature range of the specific board version, which must not be exceeded. If batteries are present, their temperature restrictions must be taken into account.

In performing all necessary installation and application operations, please follow only the instructions supplied by the present manual.

Keep all the original packaging material for future storage or warranty shipments. If it is necessary to store or ship the board, please re-pack it as nearly as possible in the manner in which it was delivered.

Special care is necessary when handling or unpacking the product. Please consult the special handling and unpacking instruction on the previous page of this manual.



Two Year Warranty

Kontron grants the original purchaser of Kontron's products a **TWO YEAR LIMITED HARDWARE WARRANTY** as described in the following. However, no other warranties that may be granted or implied by anyone on behalf of Kontron are valid unless the consumer has the express written consent of Kontron.

Kontron warrants their own products, excluding software, to be free from manufacturing and material defects for a period of 24 consecutive months from the date of purchase. This warranty is not transferable nor extendible to cover any other users or long-term storage of the product. It does not cover products which have been modified, altered or repaired by any other party than Kontron or their authorized agents. Furthermore, any product which has been, or is suspected of being damaged as a result of negligence, improper use, incorrect handling, servicing or maintenance, or which has been damaged as a result of excessive current/voltage or temperature, or which has had its serial number(s), any other markings or parts thereof altered, defaced or removed will also be excluded from this warranty.

If the customer's eligibility for warranty has not been voided, in the event of any claim, he may return the product at the earliest possible convenience to the original place of purchase, together with a copy of the original document of purchase, a full description of the application the product is used on and a description of the defect. Pack the product in such a way as to ensure safe transportation (see our safety instructions).

Kontron provides for repair or replacement of any part, assembly or sub-assembly at their own discretion, or to refund the original cost of purchase, if appropriate. In the event of repair, refunding or replacement of any part, the ownership of the removed or replaced parts reverts to Kontron, and the remaining part of the original guarantee, or any new guarantee to cover the repaired or replaced items, will be transferred to cover the new or repaired items. Any extensions to the original guarantee are considered gestures of goodwill, and will be defined in the "Repair Report" issued by Kontron with the repaired or replaced item.

Kontron will not accept liability for any further claims resulting directly or indirectly from any warranty claim, other than the above specified repair, replacement or refunding. In particular, all claims for damage to any system or process in which the product was employed, or any loss incurred as a result of the product not functioning at any given time, are excluded. The extent of Kontron liability to the customer shall not exceed the original purchase price of the item for which the claim exists.

Kontron issues no warranty or representation, either explicit or implicit, with respect to its products' reliability, fitness, quality, marketability or ability to fulfil any particular application or purpose. As a result, the products are sold "as is," and the responsibility to ensure their suitability for any given task remains that of the purchaser. In no event will Kontron be liable for direct, indirect or consequential damages resulting from the use of our hardware or software products, or documentation, even if Kontron were advised of the possibility of such claims prior to the purchase of the product or during any period since the date of its purchase.

Please remember that no Kontron employee, dealer or agent is authorized to make any modification or addition to the above specified terms, either verbally or in any other form, written or electronically transmitted, without the company's consent.



This page has been intentionally left blank.





Chapter

1

Introduction



This page has been intentionally left blank.





1. Introduction

1.1 Overview

The OM6062R is a low cost, flexible concept for implementing high performance MicroTCA™ solutions for industrial automation and medical applications. Based on an AMC Double Module design, the OM6062R provides very extensive configuration capabilities not found in conventional MicroTCA™ shelves.

The design concept is simple:

- Double-width, single-tier, MicroTCA™ cube format (supports MicroTCA.1 module to sub-rack retention devices)
- Integrated, pluggable, high power, low cost Power Supply Unit (instead of high cost PM)
- Custom backplane:
 - Six Double, Mid-size AMC module slots
 - Fabric support: Gigabit Ethernet, PCIe, SATA
 - Power switching and fan control integrated in backplane
 - Uses power planes for power distribution
 - AMC module power switching as near as possible to backplane AMC connector
- Flexible support for low cost MCH functionality
 - Standard: single tongue, Gigabit Ethernet Fabric switching MCH (Kontron's AM4901 and AM5901 Single / Double, Full-size AMC module form format)
 - Optional: third party MCH (requires optional mezzanine Compatibility Module mounted on the backplane)
- Cooling fans integrated in shelf

The OM6062R supports up to six, Single or Double Mid-size AMC Modules with various possible configurations of AMC CPUs and peripheral devices. A single pluggable Power Supply Unit is integrated along with a Double Full-size AMC form factor MCH module slot. The backplane provides GigaBit Ethernet Fabric interfacing, PCIe x1 lane interfacing, two ports of SATA interfacing between adjacent slot pairs, power switching support (PM functionality), PCIe clock, fan control, and storage for FRU data. An optional backplane mezzanine Compatibility Module is available to support a third party MCH. Four regulatable fans provide forced-air cooling for the system.

Although the backplane is single-width, the chassis itself is double-width. The space above the backplane is closed off flush with the backplane.

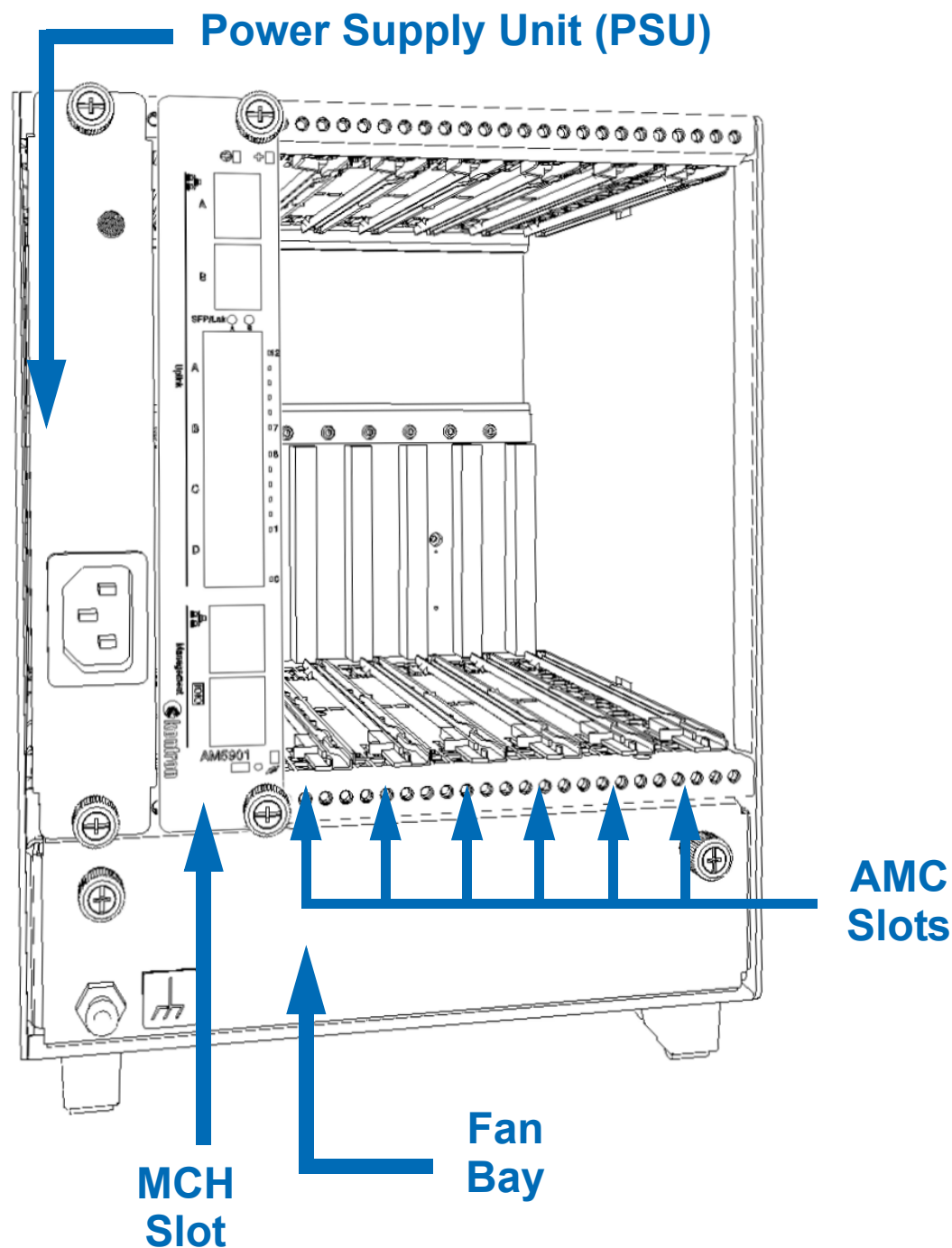
1.2 Components

The OM6062R shelf is comprised of the following elements:

- Chassis
- Backplane
- Subrack
- Power Supply Unit (PSU)
- Fans

The following figure illustrates the OM6062R shelf configured with the PSU and AM5901 MCH but without filler panels. The chassis is provided with feet, the front pair of which are retractable, for placement on a shelf or desktop (development environment). Optionally, there are two types of special mounting brackets available for cabinet or wall mount installation. The first type is for top and bottom mounting. The second type is for left and right side mounting. Both types can either be installed at the front of the chassis or at the rear of the chassis.

Figure 1-1: OM6062R Shelf - Perspective View with Feet and MCH Installed





1.3 Technical Specification

Table 1-1: OM6062R Shelf Specifications

FEATURES	SPECIFICATIONS
Shelf Mechanical	MicroTCA™ cube form designed for Single or Double Mid-size AMC Modules • Dimensions: 215.00mm x 187.24mm x 221,45mm (depth x width x height) (Without the feet being installed) • Slot geometry (from left side of the subrack): - slot 1: occupied by pluggable Power Supply Unit (Double Full-size) - slot 2: reserved for MicroTCA™ Carrier Hub - MCH (Single or Double Full-size Module) - slot 3: allocated for either Single or Double Mid-size AMC module to - slot 8: allocated for either Single or Double Mid-size AMC module • Fan bay located at bottom-front of the shelf • Weight: 4,40 kg: shelf with PSU and fans 4,95 kg: typical configuration with PSU, AM4901 MCH, and AM5010 CPU board 5,10 kg: typical configuration with PSU, AM5901 MCH, and AM5010 CPU board
Backplane	MicroTCA™ compliant, single-tier backplane with: • six AMC module connectors • one single tongue MCH connector • one pluggable Power Supply Unit connector • two connectors for interfacing to an optional onboard MCH module • four fan connectors Input power distribution and control functionality PCIe clock generation and distribution Fan speed control Backplane FRU data EEPROM Fabrics: • twelve port, single-star Gigabit Ethernet Fabric (two ports to each AMC slot) • four port PCIe, one lane each from AMC#1 slot to AMC slots 2, 3, 4 and 5 (no PCIe connection to AMC#6 slot) • three pairs of SATA ports (AMC Ports 2 and 3): • AMC#1 to AMC#2 • AMC#3 to AMC#4 • AMC#5 to AMC#6 IPMB-L and I²C interfacing supported for IPMI and local monitor and control Optional mezzanine Compatibility Module available to support a third-party MCH Temperature Ranges: • Operating: -5°C to +55°C • Storage: -40°C to +70°C

**Table 1-1: OM6062R Shelf Specifications (Continued)**

FEATURES	SPECIFICATIONS
Fans	Four auto restart, brushless DC motor, radial fans: • Input voltage range: 7 to 13.2 VDC, nominal 12 VDC • Fan speed regulatable • Maximum air flow: 1.824 m³/min x 4 • Power consumption: max. 8.4 watts x 4 • Acoustical noise: 65.2 dB • Life expectancy: 70,000 hours at 40°C • Temperature: • Operating: -10°C to +70°C • Storage: -40°C to +70°C • Dimensions: 80mm (length) x 80mm (width) x 25mm (height) • Weight: 80 g x 4
Power Supply Unit	MicroTCA™ Double, Mid-size pluggable AC power supply unit: • Input voltage range: 90 to 264 VAC; 47 to 63 Hz • Input current maximum: 5A • Output voltages: +12 V and +3.3 V DC • Output power: maximum continuous: 300 watts (forced air cooling required) • Current ratings: • +12 V: 0 to 25 A • +3.3 V: 0 to 2.4 A • LED: green, lights up when both output voltages are present and within tolerance • Input connector: IEC 320 connector • Temperature: • Operating: -5°C to +55°C continuous duty, full rating • Storage: -40°C to +85°C • Humidity: 93% RH at 40°C, non-condensing • Dimensions: 31mm (height) x 170mm (width) x 187mm (depth)



1.4 Standards

This *Kontron* MicroTCA™ shelf complies with the requirements of the following standards.

Table 1-2: Standards

COMPLIANCE	TYPE	STANDARD	TEST LEVEL
CE	Emission	EN55022 EN61000-6-3	--
	Immission	EN55024 EN61000-6-2	--
	Electrical Safety	EN60950-1	--
Mechanical	Mechanical Dimensions	IEEE 1101.10	--
Environmental and Health Aspects	Climatic Humidity	IEC60068-2-78	93% RH at 40°C, non-condensing
	WEEE	Directive 2002/96/EC	Waste electrical and electronic equipment
	RoHS	Directive 2002/95/EC	Restriction of the use of certain hazardous substances in electrical and electronic equipment



1.5 Related Publications

The following publications contain information relating to this product.

Table 1-3: Related Publications

PRODUCT	PUBLICATION
ATCA	PICMG® 3.0 AdvancedTCA Base Specification R2.0, March 18, 2005
MicroTCA	PICMG® MTCA.0 Micro Telecommunications Computing Architecture R1.0, July 6, 2006 PICMG® MTCA.1 Air Cooled Rugged Micro Telecommunications Computing Architecture R1.0, March 19, 2009
AMC	PICMG® AMC.0, Advanced Mezzanine Card Specification R2.0 PICMG® AMC.1, PCI Express and Advanced Switching R1.0 PICMG® AMC.2, Gigabit Ethernet R1.0 PICMG® AMC.3, Storage Interfaces R1.0
IPMI	IPMI - Intelligent Platform Management Interface Specification, v2.0 Document Revision 1.0, February 12, 2004 IPMI - Platform Management FRU Information Storage Definition, V1.0 Document Revision 1.1, September 27, 1999
PCI Express	PCI Express Base Specification Revision 1.0a
Serial ATA	Serial ATA 2.5 Specification



Chapter

2

Component Description



This page has been intentionally left blank.





2. Component Description

2.1 Shelf

The OM6062R shelf is designed for industrial and medical environments as well as for application development. The shelf's steel frame provides a robust housing for system components and airflow channelization over the system slots. The OM6062R is delivered with four feet of which the front two are retractable for placement on a desktop or shelf. Optionally there are two different types of mounting brackets available for rack or wall mounting.

The shelf is designed to accommodate Double Mid-size AMC modules and is a single-tier vertically oriented MicroTCA™ cube format system. Single Mid-size AMC modules may also be used. To support these modules, there are various filler-panel assemblies optionally available to ensure proper air flow through the subrack.

The following figures illustrate the mechanical design of the OM6062R shelf.



Figure 2-1: OM6062R Shelf - Front View

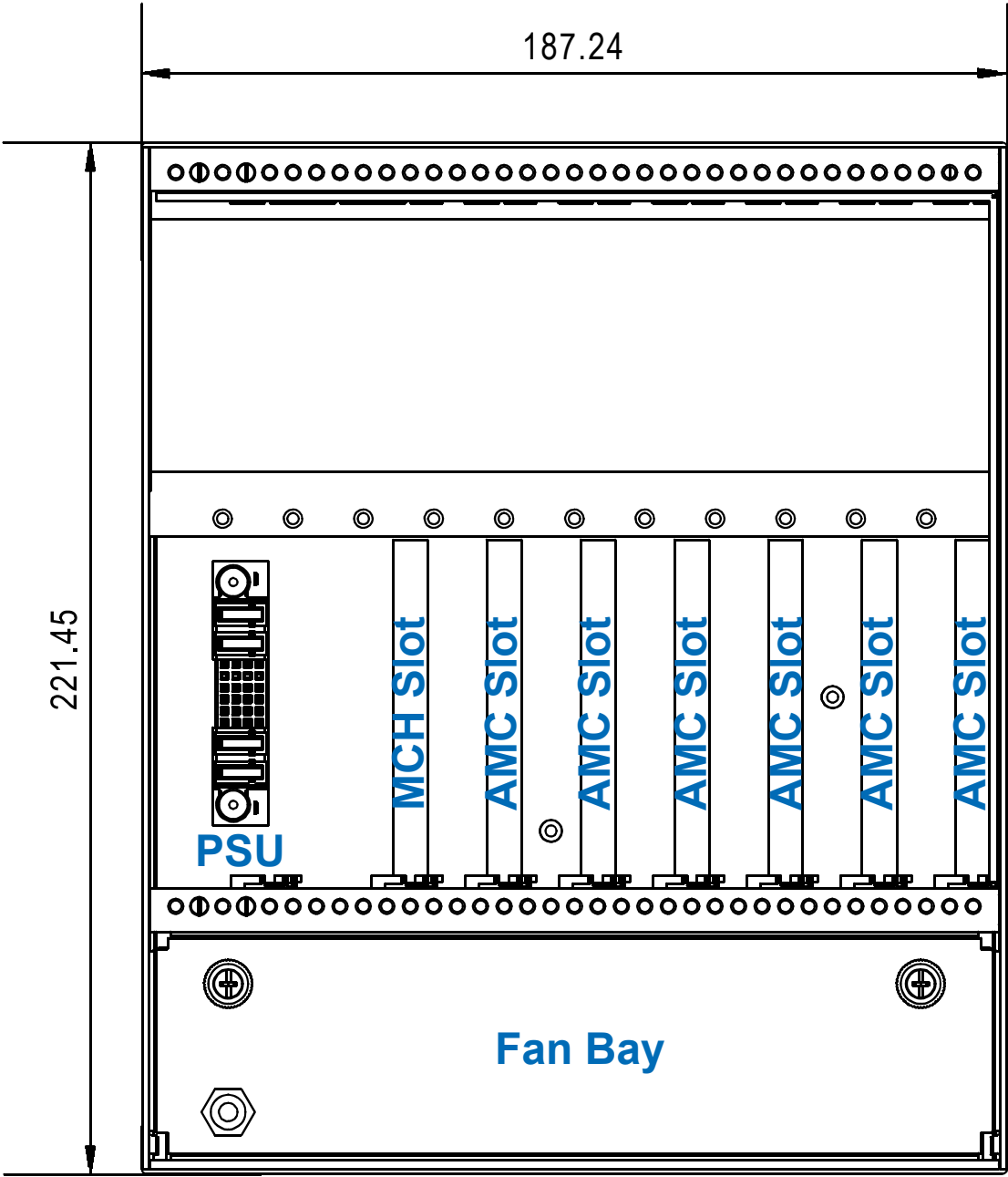




Figure 2-2: OM6062R Shelf - Rear View

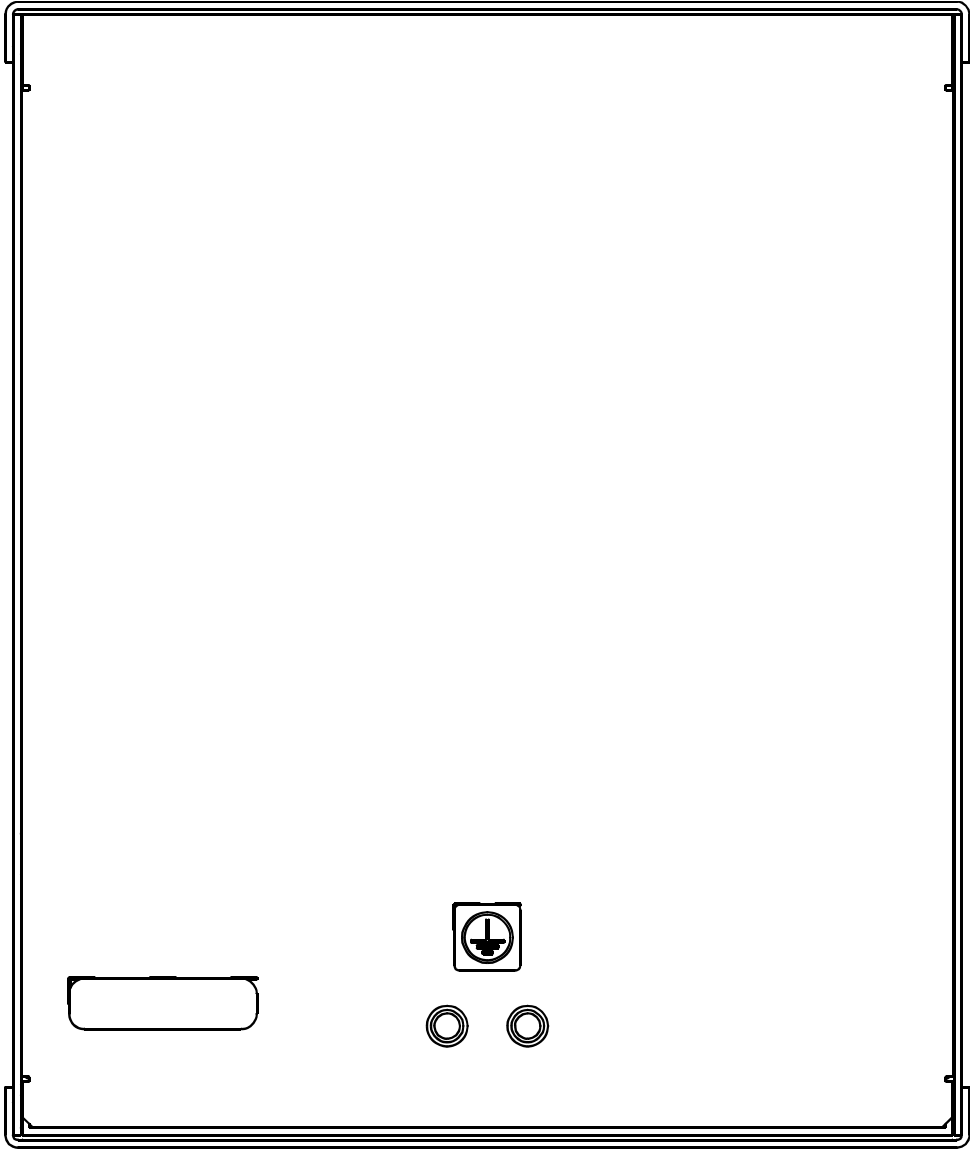




Figure 2-3: OM6062R Shelf - Bottom View

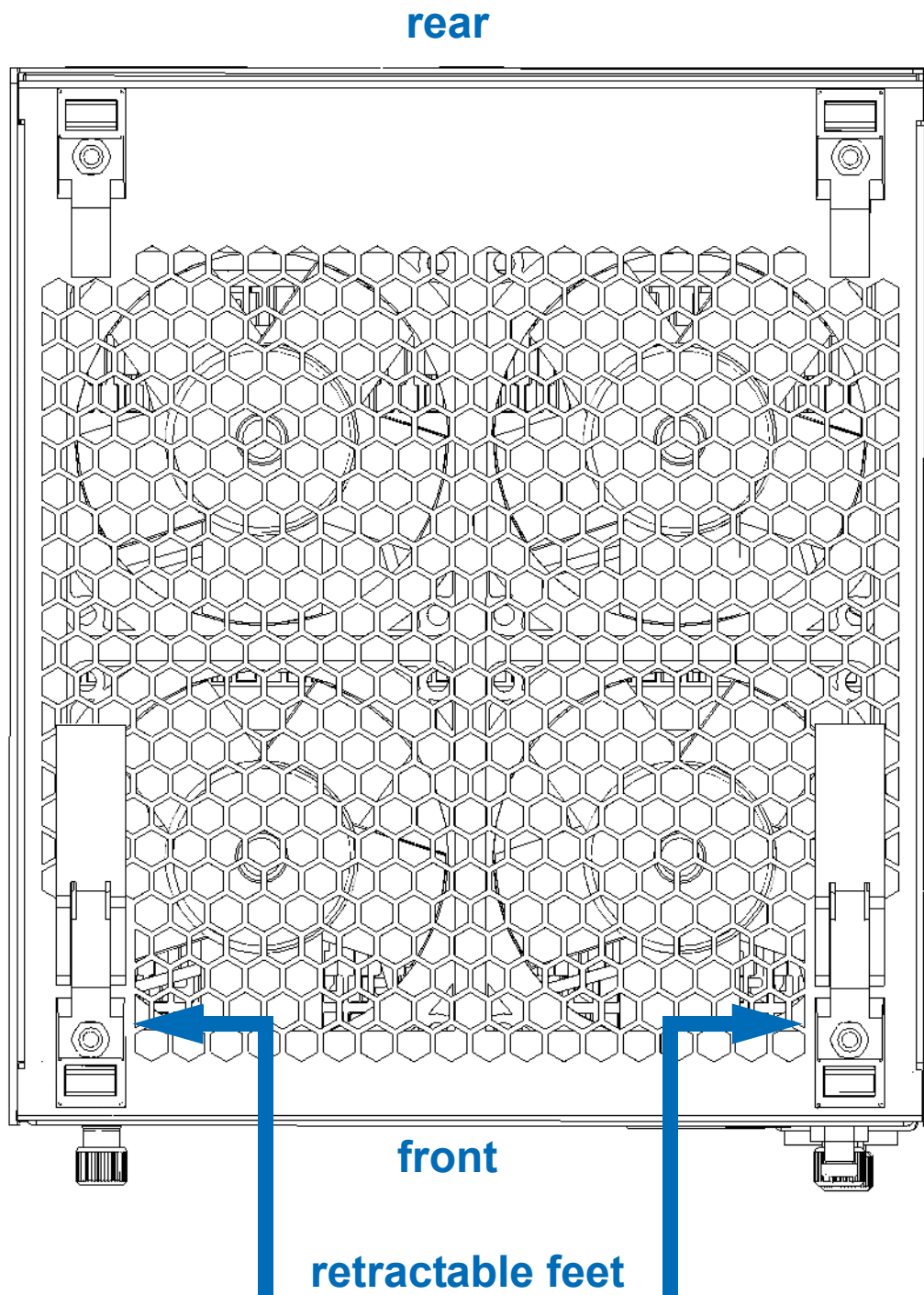




Figure 2-4: OM6062R Shelf - Top View

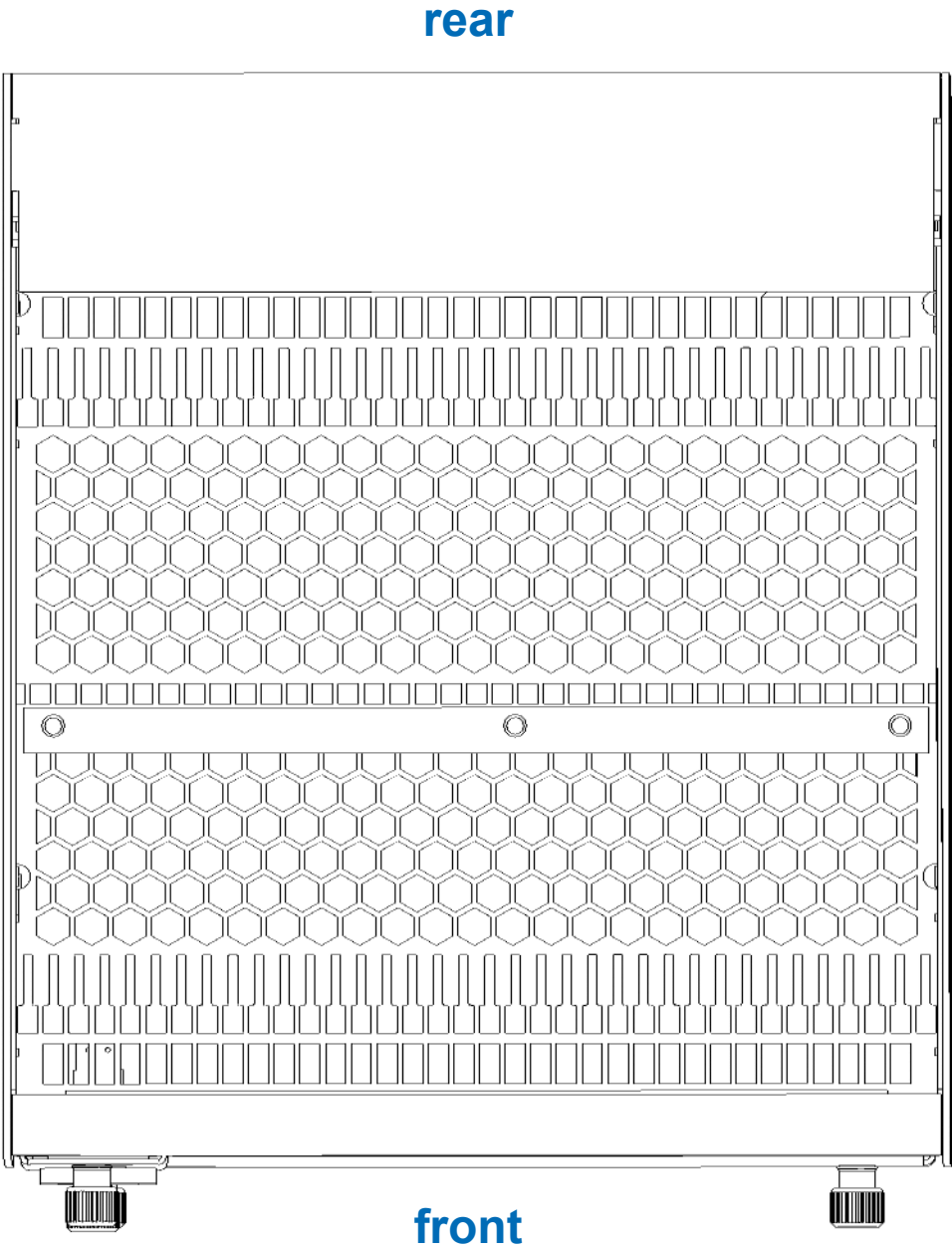
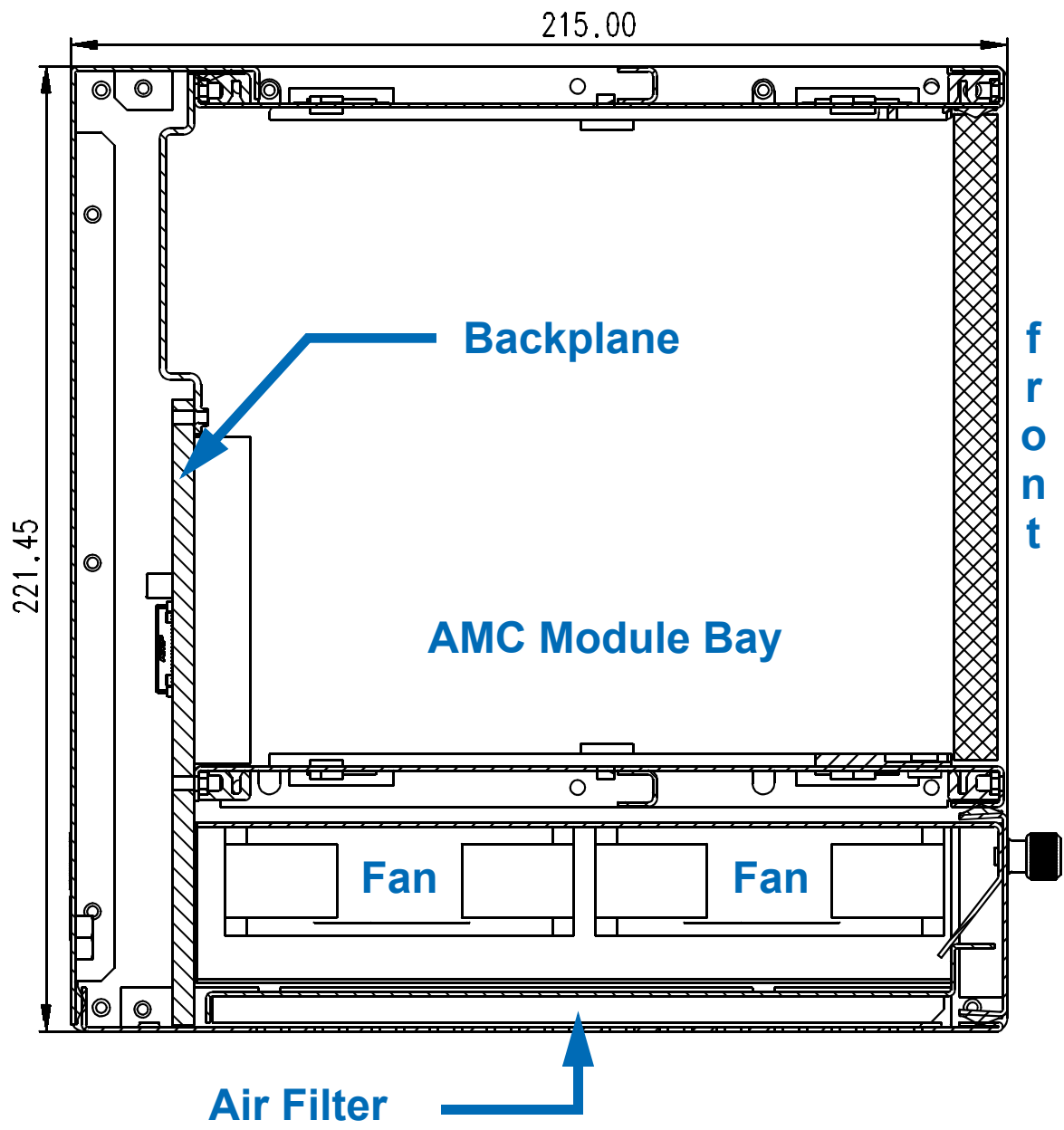




Figure 2-5: OM6062R Shelf - Left Side View - Cutaway





2.2 Backplane

The OM6062R backplane provides the following basic functions:

- Fabric interconnectivity for:
 - Gigabit Ethernet
 - SATA
 - PCIe
- Input power distribution and control for payload, management, and MCH (MCMC) power
- PCIe clock generation and distribution
- IPMI monitor and control interfacing (IPMB-L)
- Backplane FRU data storage (EEPROM)
- MCMC I²C monitor and control interfacing
- Cooling unit (fan) monitor and control
- Interfacing for optional mezzanine MCH module

The following figures illustrate the basic layout of the backplane and the backplane topology

Figure 2-6: Backplane Front View

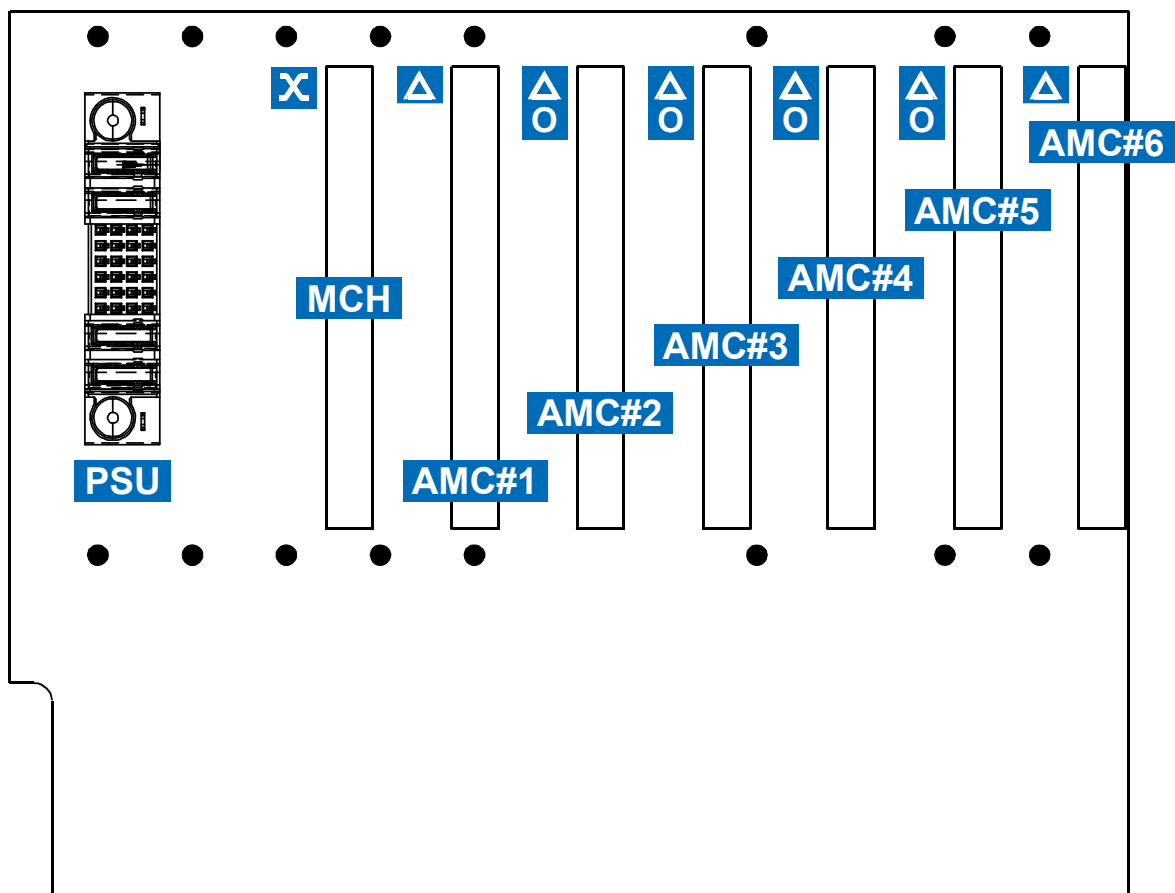
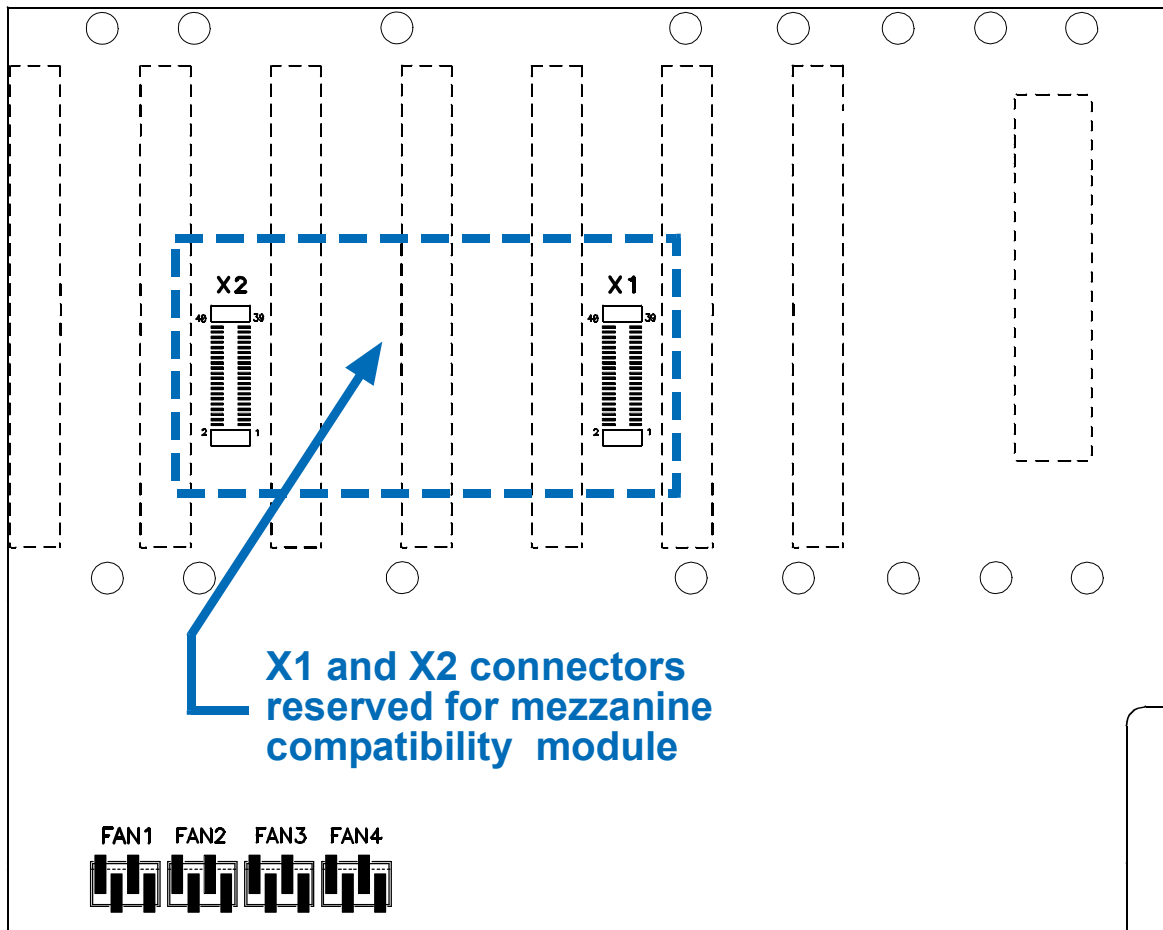


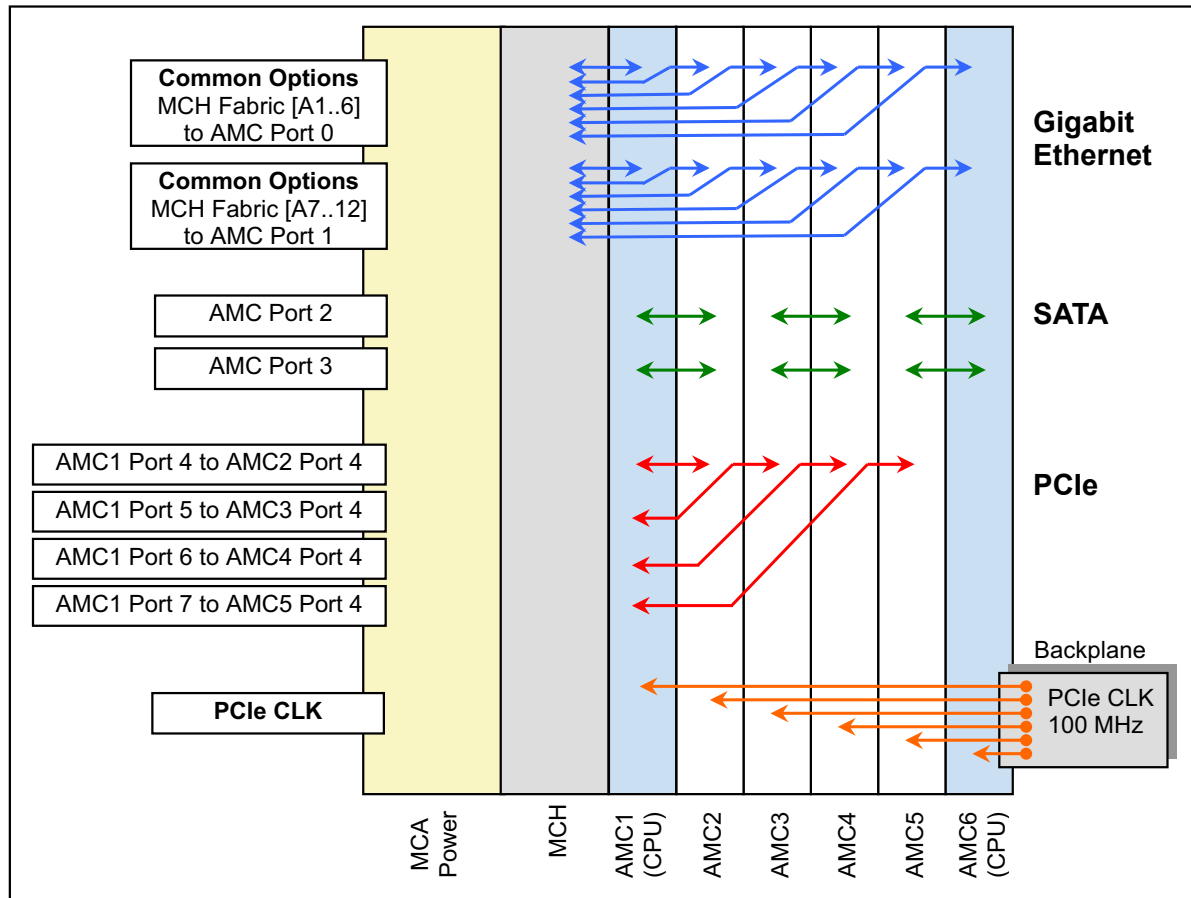


Figure 2-7: Backplane Rear View



If a third-party MCH is to be used with the OM6062R, a special mezzanine compatibility module is required to provide additional interfacing functionality with the backplane.

Figure 2-8: Backplane Topology



The topology of the OM6062R backplane permits a wide range of module configurations. There are, however, some restrictions as to the use of particular module combinations.

If, for example, CPU modules are installed in both slots 1 and 2 (or 3 and 4; or 5 and 6), there must be no SATA functionality active on AMC ports 2 and 3. If both CPUs have SATA active on these ports, neither of the CPUs will not properly boot.

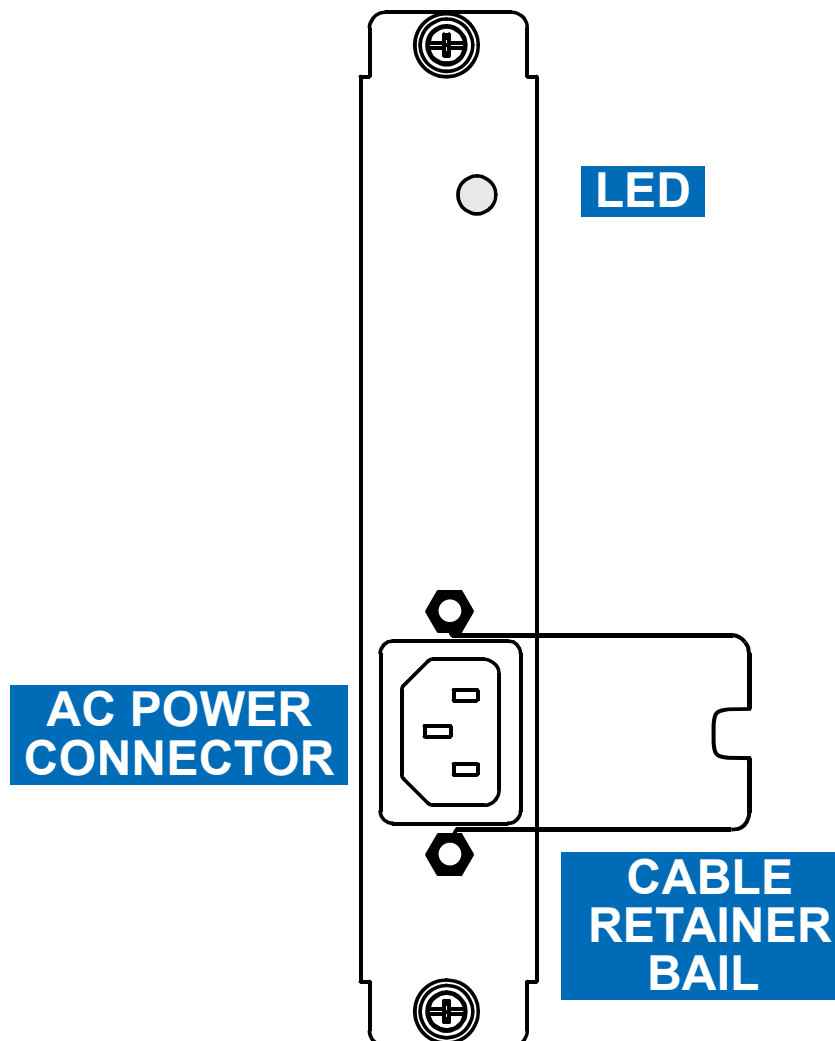
When a CPU module which provides PCIe functionality is installed in slot 1 it is the host. Therefore, any CPU modules installed in slots 2, 3, 4, or 5 must not have PCIe root complex functionality enabled, otherwise the system will not properly boot. It is highly recommended that Kontron be consulted when considering implementation of systems requiring PCIe functionality.



2.3 Power Supply Unit

The Power Supply Unit has been specially designed for use with the OM6062R. It is a Double Full-size AMC form factor pluggable module with mounting screws to fix the PSU to the sub-rack. Input power is supplied via the front panel connector. Interfacing to the backplane is achieved via a very high power load Molex connector which interfaces power as well as monitor and control signals to the backplane. On the front panel there is a green LED to indicate when both output voltages are present and within tolerance.

Figure 2-9: Power Supply Unit Front View





2.4 Fans

The OM6062R's thermal concept currently foresees the use of a four small fans. A single fan drawing and a cutaway drawing showing the fan tray with all fans is shown in figures below.

Figure 2-10: Single Fan

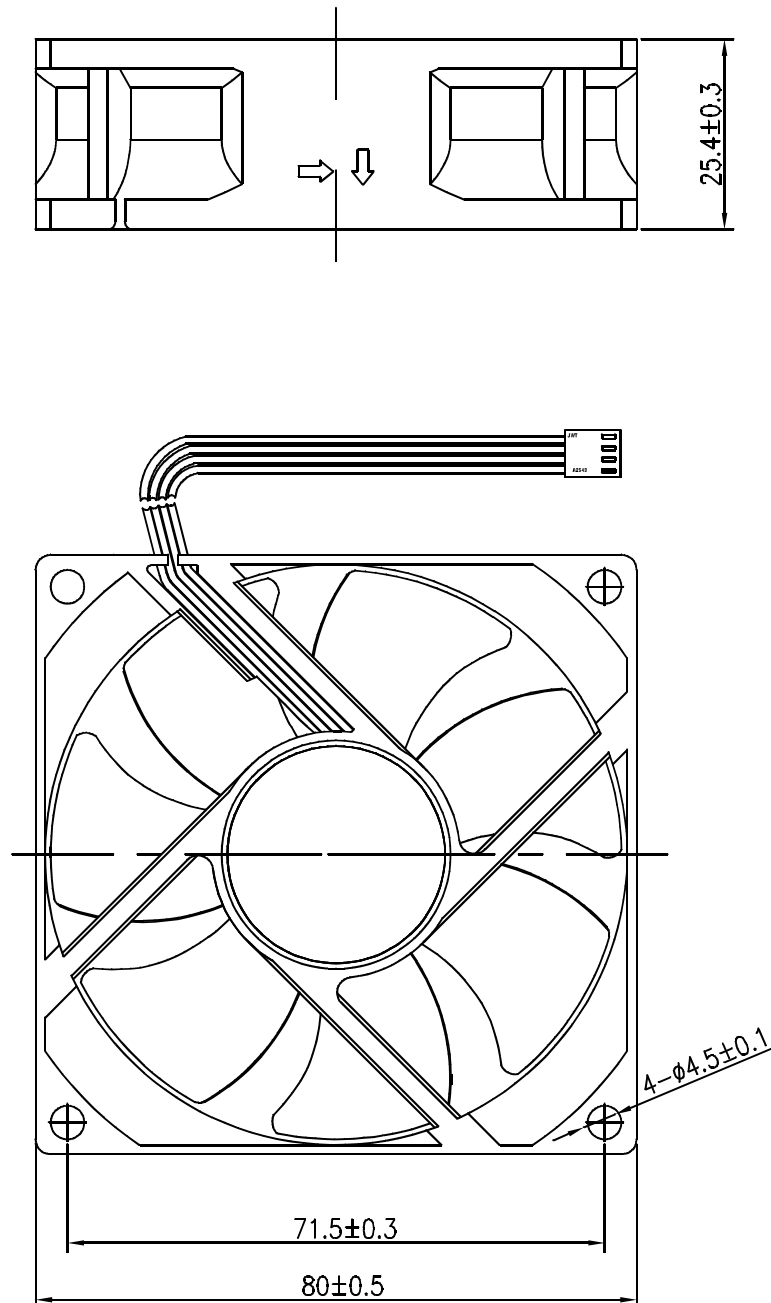
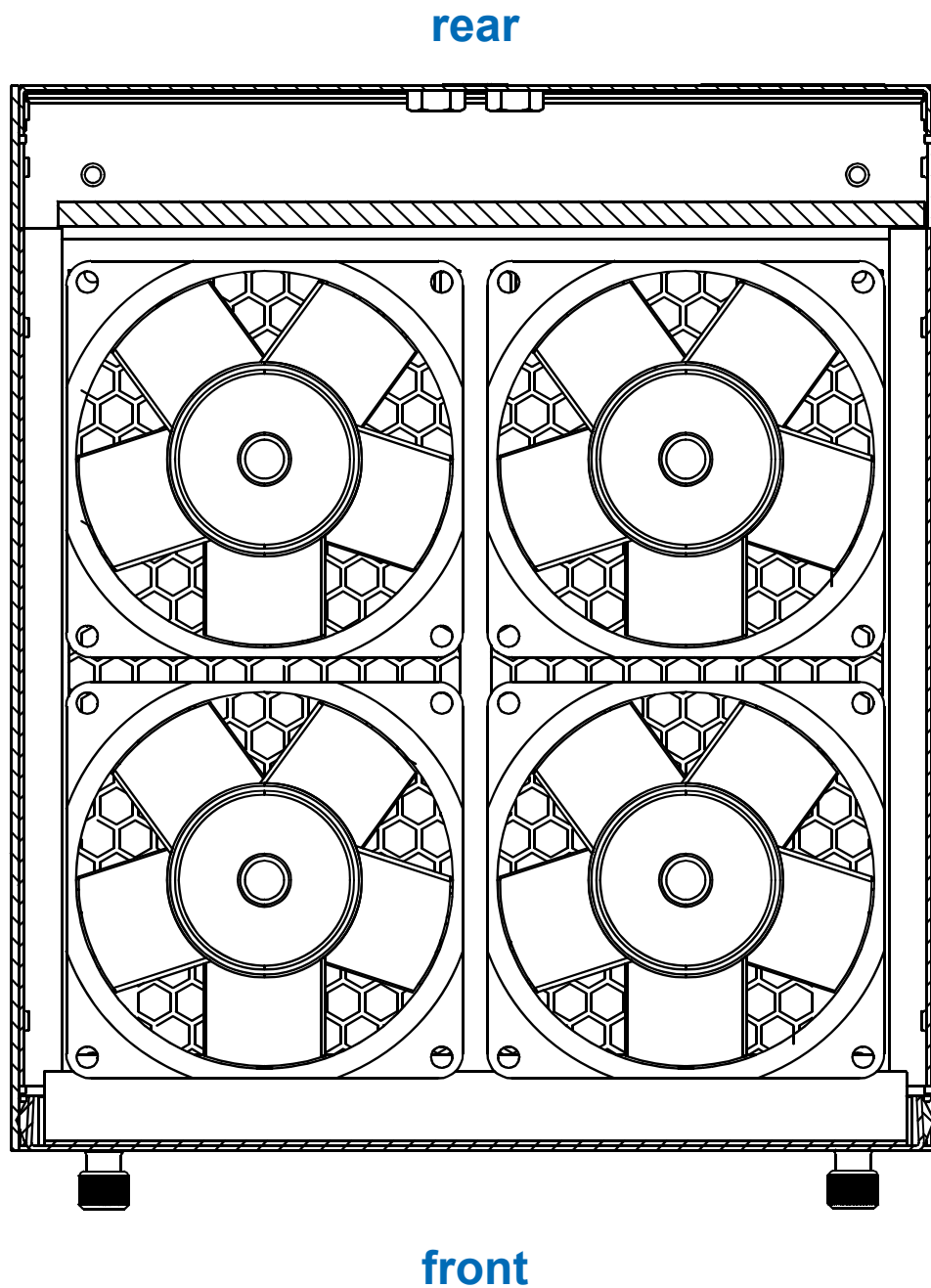




Figure 2-11: Fan Tray with all Fans as Seen from Top





2.5 Mounting Brackets

For rack or wall mounting, there are special optionally available mounting brackets. These brackets come in pairs either for top/bottom or side mounting. The top/bottom bracket pair is symmetric and the left/right bracket pair is symmetric. They may be installed either at the front of the subrack or at the rear as necessary. If brackets are required, the type must be specified when ordering the OM6062R.

Figure 2-12: Top/Bottom Mounting Brackets (Front and Rear)

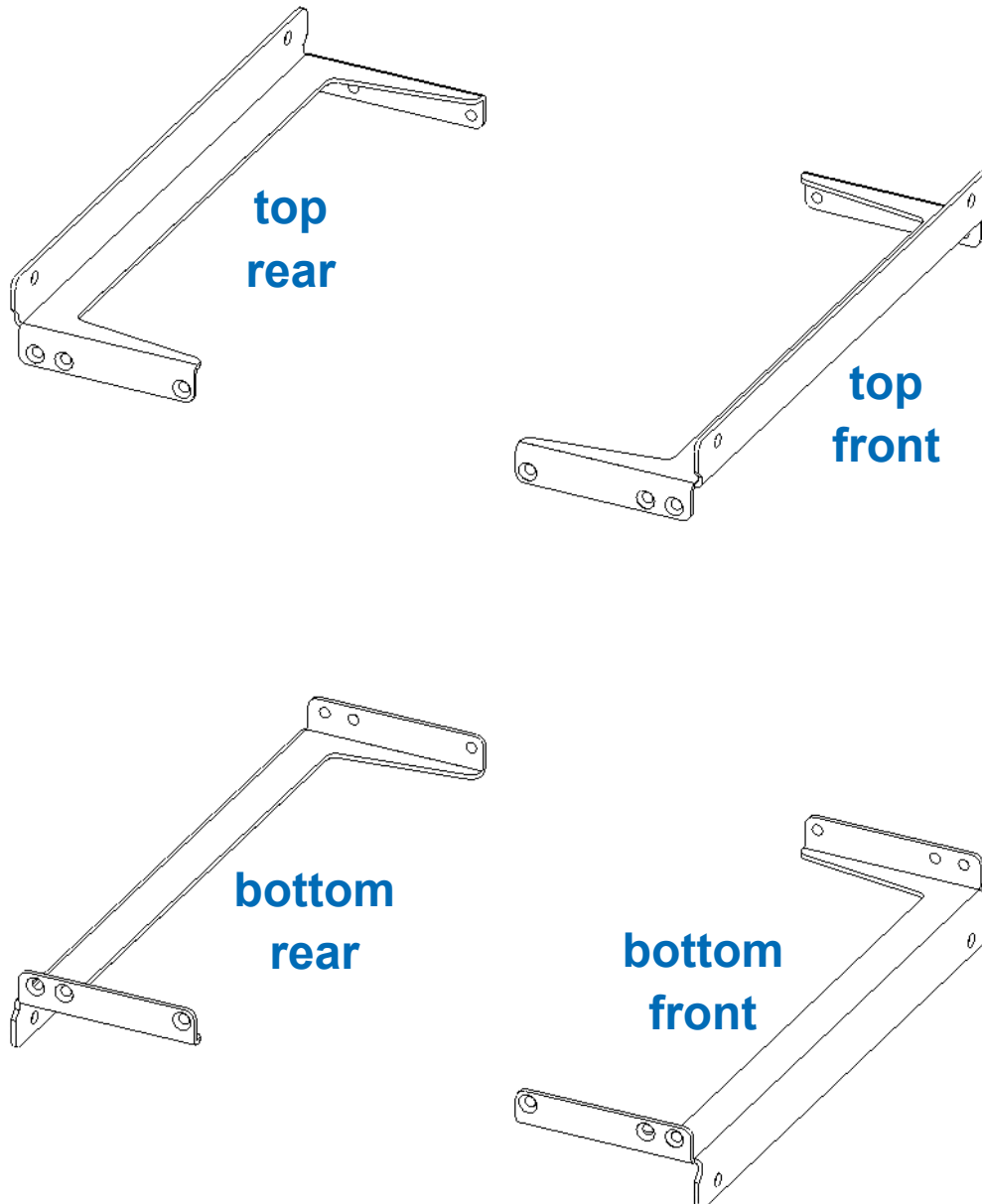
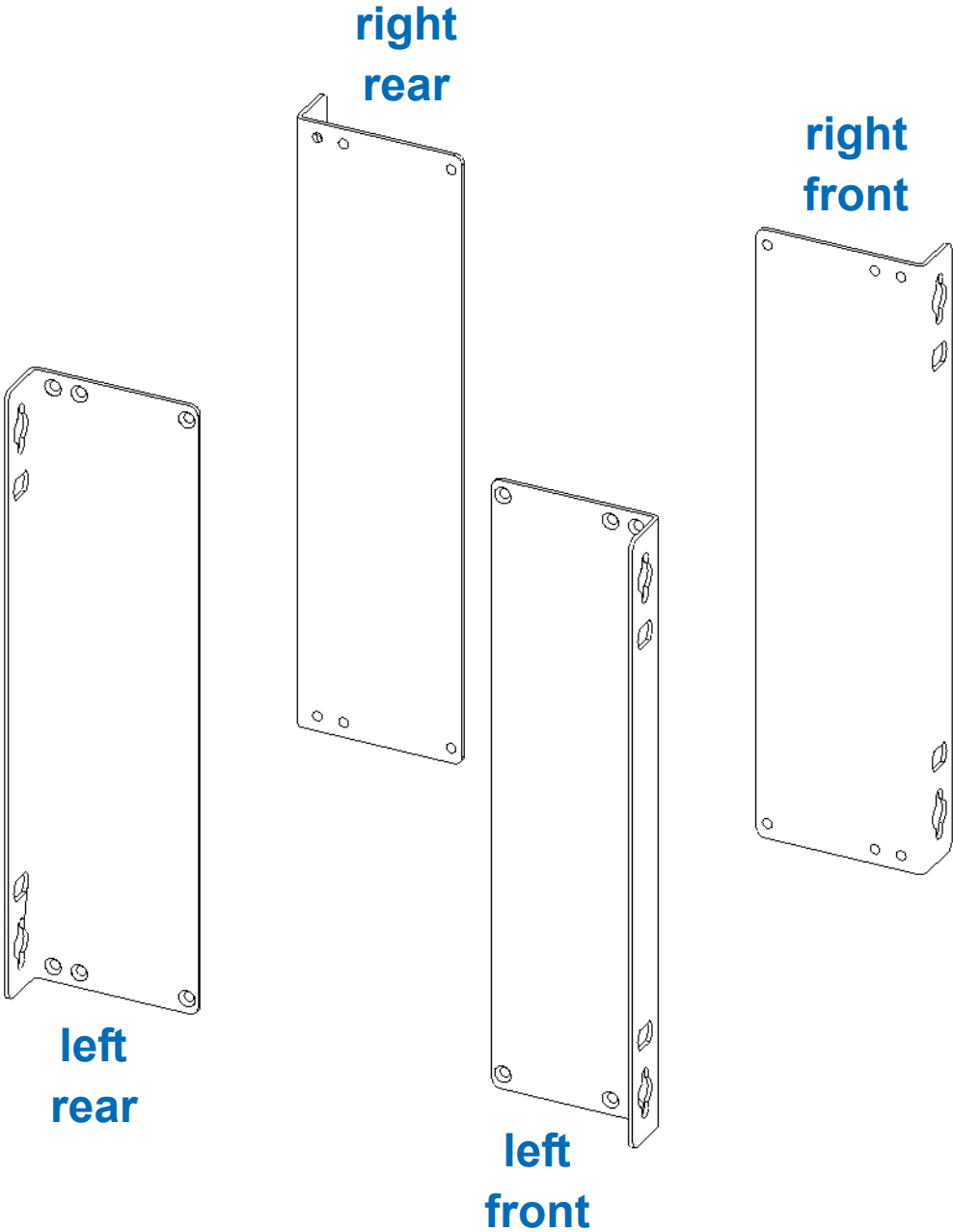




Figure 2-13: Left/Right Side Mounting Brackets (Front and Rear)





Chapter

3

Installation



This page has been intentionally left blank.





3. Installation

3.1 General

The OM6062R shelf itself is an application support platform for MicroTCA™ solutions. In order to satisfy solution requirements it must be configured accordingly. To assist application developers and system implementers in achieving their goals, the OM6062R is provided with a minimum configuration.

The following table and figures illustrate the base solution configuration of the OM6062R. This configuration is the basis for the information and procedures provided in the following Installation sections.

Table 3-1: OM6062R Base Solution Configuration

COMPONENT	QTY	SYSTEM LOCATION - DESCRIPTION
Subrack	1	Mechanical chassis of OM6062R
Backplane	1	-
Power Supply Unit (PSU)	1	FSA-1 : u - l : Double 6HP, screw fixed
Fans	1	Fan bay area (four small sized fans)
Filler Panels, Single Width (OPTIONAL)	-	FSA-2 : u - l : Full-size with air flow guide and extraction handle FSA-3 : u - l : Mid-size with air flow guide and extraction handle FSA-4 : u - l : Mid-size with air flow guide and extraction handle FSA-5 : u - l : Mid-size with air flow guide and extraction handle FSA-6 : u - l : Mid-size with air flow guide and extraction handle FSA-7 : u - l : Mid-size with air flow guide and extraction handle FSA-8 : u - l : Mid-size with air flow guide and extraction handle
Filler Panels, Double Width (OPTIONAL)	-	FSA-4 : u - l : Mid-size with side panel, air baffle, and screw retention device FSA-5 : u - l : Mid-size with side panel, air baffle, and screw retention device FSA-6 : u - l : Mid-size with side panel, air baffle, and screw retention device FSA-7 : u - l : Mid-size with side panel, air baffle, and screw retention device FSA-8 : u - l : Mid-size with side panel, air baffle, and screw retention device
Splitter Kit (includes card guide support plate, strut, and card guide) (OPTIONAL)	-	FSA-2 : u - l : Double, on right side of slot FSA-3 : u - l : Double, on right side of slot FSA-4 : u - l : Double, on right side of slot FSA-5 : u - l : Double, on right side of slot FSA-6 : u - l : Double, on right side of slot FSA-7 : u - l : Double, on right side of slot FSA-8 : u - l : Double, on right side of slot
AM5901 MCH	1	FSA-2 : u - l : Double Full-size (Kontron module)

Legend for Table 3-1:

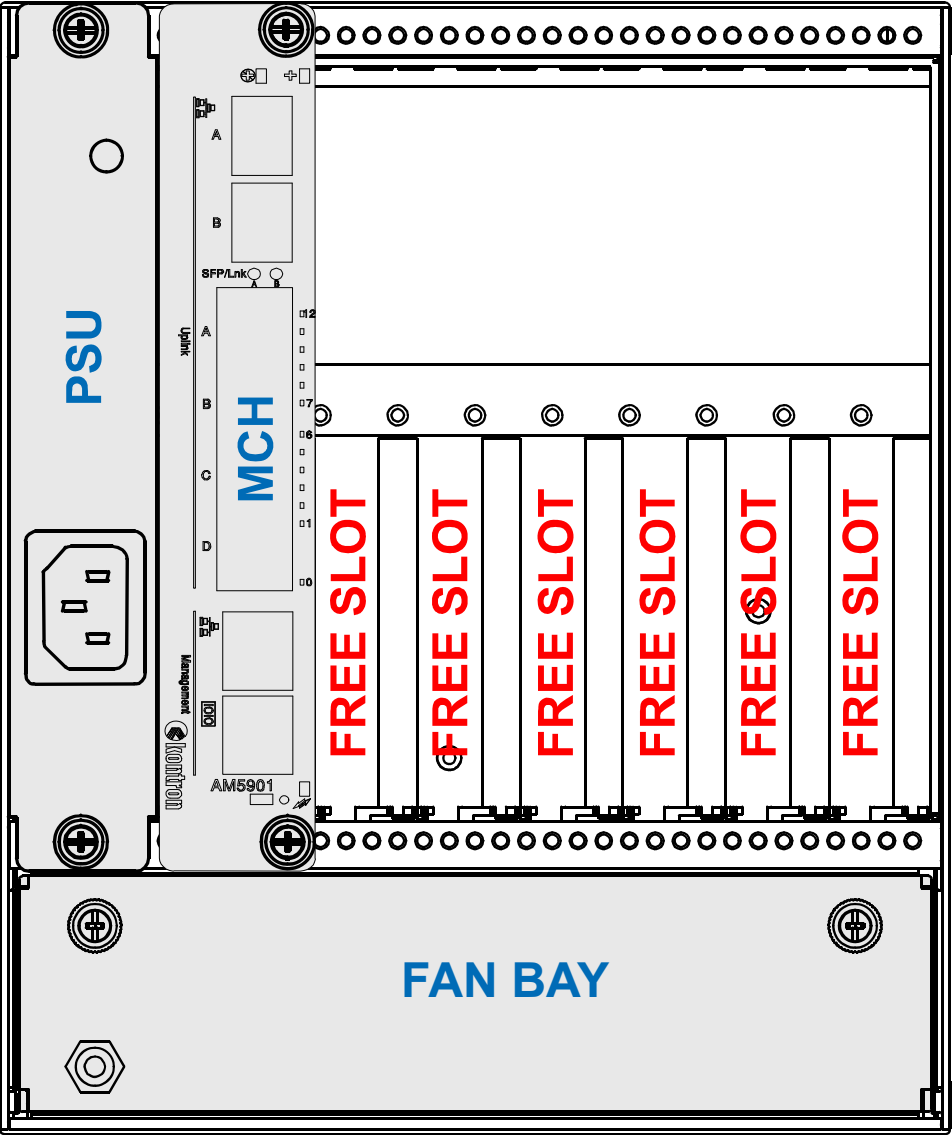
FSA = front slot area, as seen from front - numbered left to right

u - l = upper - lower - area of slot occupied by component

QTY = quantity



Figure 3-1: OM6062R Base Solution - Front View



The “free slots” indicated above do not have splitter kits or filler panels installed. If required, they must be ordered separately.





3.2 Safety

The following precautions must be observed:



Caution, Electric Shock Hazard!

The OM6062R requires AC mains power in the range from 90 to 264 volts for operation. Therefore, due caution must be exercised when handling or performing operations on the OM6062R when power is applied.

Failure to comply with the above could endanger your life or health and may cause damage to the OM6062R or other system components including process-side signal conditioning equipment.



ESD Equipment!

The OM6062R contains electrostatic sensitive devices. Ensure that the following precautions are observed to avoid damaging the OM6062R:

Discharge clothing before touching the assembly. Tools must also be discharged before use.

Do not touch any board components, connector pins, or board conductive circuits.

If working at an anti-static workbench with professional discharging equipment, ensure compliance with its usage when handling this product.



3.3 Prerequisites

3.3.1 Cooling

The OM6062R requires forced-air cooling which is provided by the cooling fans located on the bottom side of the subrack. Adequate ambient airflow to the fan's inlet area must be ensured. In addition, the area above the subrack must also provide for adequate outlet airflow. Direct recycling of outlet air to the inlet area must be avoided to preclude overheating of the system.



Warning!

Failure to comply with the above can result in improper operation or damage to the OM6062R or other components installed in the OM6062R.

Kontron rejects any and all liability for damage resulting from inadequate cooling of the OM6062R or components installed in the OM6062R.

3.3.2 Splitter Kits and Filler Panels

Operation of the OM6062R requires that all slots be fully occupied or appropriate filler panels (Single or Double width) must be installed to close any open front area(s). To accomplish this, optionally, the OM6062R may be delivered with pre-configured tier splitter kits (card guide support plate, strut, and card guide in position B) and filler panels installed. Depending on solution requirements these components may be removed or reconfigured as necessary.



Warning!

Remove power from the system before performing any reconfiguration of these components.

Failure to comply with the above could endanger your life or health and may cause damage to the OM6062R or other system components including process-side signal conditioning equipment.

Kontron rejects any and all liability for damage resulting from failure to remove power before performing the above.

In order to reconfigure a slot, it may be necessary to remove components, AMC modules or filler panels, prior to reconfiguring as the removal of a splitter kit requires access to both sides of the card guide support plate.

Removal of the splitter kit itself is done by pressing on the right side of the support plate until it noticeably gives way and then sliding it out of the slot. A flat-bladed screwdriver with a thin shaft (4 - 5 mm) and about 12 cm long is required to remove the splitter kit in FSA-8 (the right most slot). To accomplish this, insert carefully the screwdriver between the middle of the support plate and the shelf sidewall until the shaft is fully inserted. If required carefully apply pressure to the support plate until it gives way, then slide it out of the slot. The amount of pressure required to release the support plate is really minimal and should not cause permanent bending of the support plate.



3.4 Mounting

The OM6062R may optionally be supplied with fixed mounting brackets for installation in a system cabinet. For cabinets which are wider or higher than the OM6062R, additional mounting hardware is required which is not supplied with the OM6062R.

For operation of the OM6062R on a flat surface, desktop or rack shelf, there are no special mounting fixtures except for the four feet. In this case, for operation the front feet should be extended to ensure adequate airflow to the OM6062R. Care must also be taken to ensure that OM6062R cannot fall off of the flat surface.

3.5 Adding or Replacing OM6062R Components

Solution requirements determine the operational configuration of the OM6062R. Therefore, it may or will be necessary to add, remove, or reconfigure components. AMC modules are normally supplied with documentation which provides instructions or guidelines on their installation or replacement. Please refer to this documentation for further assistance.

OM6062R specific components, fan and backplane, are not user replaceable. The Power Supply Unit (PSU), however, is user replaceable.

Replacement of the PSU requires that the main power be removed from the system. Therefore, it is necessary to ensure that the system is properly prepared for powering down. Once the system is powered down, remove the power cable to the PSU, unscrew the retaining screws and slide it out of the slot. Then install the new PSU, fasten the retaining screws, and reconnect the main power cable. As required, apply power again to the system.

3.6 Cooling Air Filter Maintenance

The OM6062R is provided with a cooling air filter which is located underneath the fans at the bottom of the subrack. To gain access to the air filter, unscrew the two Fan Bay front panel thumbscrews and remove the front panel. The air filter has a grip flange at the front which is used to extract the filter from the chassis. To inspect, clean, or replace the filter, pull it out of the chassis using the grip flange.

Typically the air filter should be inspected every three months. As required, it should be cleaned or replaced. If the system is operated in a dusty, oily, or otherwise contaminated environment the filter should be inspected at shorter intervals, eventually once a month.

3.7 Use of Third Party MCHs

The OM6062R base configuration foresees the use of Kontron's AM5901 MCH. If a third party MCH is to be installed in the system, a compatibility module from Kontron is required or the system will not operate. Please contact Kontron for further assistance.



This page has been intentionally left blank.

